REMARKS

Claims 1-5, 7-9, and 12-23 are pending in this application. By this Response, claims 1-5 and 7-9 are amended, claims 6 and 10-11 are canceled, and claims 12-23 are added. Reconsideration of the claims is respectfully requested in view of the above amendments and the following remarks.

Independent claim 1 is amended for clarification purposes in view of the rejections set forth in the Board's Decision on Appeal mailed March 15, 2006 and to recite the features of a options table data structure, one or more user options, a user interface through which user options are defined and the status of the user objections is set, referencing a selected user option in a cell by including an identifier associated with the selected user option in the content of the cell, determining a value of each of the one or plurality of cells based on the status of the selected user option, and providing an output. Newly added independent claims 15 and 21 recite a computing system and computer program product, respectively, that include features similar to that of independent claim 1. Support for these features in claims 1, 15 and 21 may be found at least in the originally filed claims, Figures 1A-1B, and pages 14-18 of the present specification.

Dependent claim 2 is amended to recite that each record of a user options table data structure comprises a user option index, a name of the user option, and a status value. Newly added dependent claim 16 recites similar features. Support for these features may be found at least in Figure 4 and on page 19 of the present specification.

Dependent claim 3 is amended to recite that the user interface comprises a user options listing portion, a status portion, and a user controls portion. Newly added dependent claims 17 and 22 recite similar features. Support for these features may be found at least in Figure 3 and its corresponding description in the specification.

Dependent claim 4 is amended to recite that referencing a selected user option comprises inserting the name of the selected user option as a named range variable in an equation of the cells and that determining a value of the cell comprises computing the value of the cell according to a value corresponding to a Boolean variable state of the

selected user option. Newly added dependent claims 18 and 23 recite similar features. Support for these features may be found at least at page 18 of the present specification.

Dependent claim 5 is amended to recite that the user option listing includes an editor through which a name of the user option is changed. Newly added dependent claim 19 recites similar features. Support for this feature may be found at least at page 15, lines 19-33.

Dependent claim 7 is are amended to recite that the value corresponding to the Boolean variable state is a numerical one when the Boolean variable state is "True" and is a numerical 0 when the Boolean variable state is "False." Newly added dependent claim 20 recites similar features. Support for these features may be found at least in the originally filed claims as well as page 18, lines 4-9.

Dependent claim 8 is amended to recite that the user interface is a graphical user interface and that the control elements are virtual buttons of the graphical user interface. Support for these features may be found at least in Figure 3 of the present application.

Dependent claim 9 is amended for clarification purposes only.

I.   **Rejection of Claims 1-11 under 35 U.S.C. § 112, Second Paragraph**

The Decision on Appeal mailed March 15, 2006 rejects claims 1-11 under 35 U.S.C. § 112, second paragraph as being allegedly indefinite for a number of stated reasons. Each of these reasons will be addressed below.

The various reasons the Board asserts that claim 1 is indefinite are as follows:

(1) there is an alleged disconnect between the preamble of the claim and the body of the claim;

(2) there is only an inferential implementation of the claimed invention on a computer system;

(3) the "electronic spreadsheet" in the body of the claim is not linked with the "spreadsheet" in the preamble;

(4) the "cells" in the body of the claim are not recited as being part of the spreadsheet referenced in the preamble;

(5) the "table" is not stated to be in a "memory" of the computer system;

(6) there is only an inferential statement of managing the Boolean variables;

(7) the nature of the word "managed" or "defining" is not defined;

(8) the alleged broad use of the word "referencing" in the body of the claim has no operative relationship or has a questionable scope as to the meaning of the term;

(9) the use of the term "can be set" is not a positive statement of a feature but relates only to a future act that may or may not occur; and

(10) the scope of meaning of the word "impact" is not determinable.

Amended claim 1 reads as follows:

1.   A method, in a computer system, for processing user defined Boolean variables in a multi-dimensional electronic spreadsheet comprising a plurality of cells identified by a cell address along each dimension, said method comprising the steps of:
    providing, in the computer system, a user options table data structure identifying one or more user options that are defined as Boolean variables, wherein the user options table data structure comprises a record for each user option of the one or more user options, and wherein each record stores an identifier associated with a corresponding user option for the record;
    providing a user interface, in the computer system, through which the one or more user options are defined, wherein a status of the one or more user options is set via the user interface to either a first Boolean variable state corresponding to a "True" state or a second Boolean variable state corresponding to a "False" state;
    referencing a selected user option of the one or more user options in one or a plurality of cells of the multi-dimensional electronic spreadsheet by including an identifier associated with the selected user option in content of the one or a plurality of cells;
    determining a value of each of the one or plurality of cells based on a status of the selected user option as either being the first Boolean variable state or the second Boolean variable state, as specified via the user interface; and
    providing an output of the multi-dimensional electronic spreadsheet via an output device of the computer system.
(emphasis added)

With regard to (1)-(3) and (5) above, amended claim 1 clearly recites in the preamble that the method is implemented "in a computer system" and the body of the claim recites operations that are performed "in the computer system." Moreover, the

body of the claim recites that a "user options table data structure" is provided "in the computer system" as well as providing an output via "an output device of the computer system." Moreover, the claim recites a "multi-dimensional electronic spreadsheet" in both the preamble and the body of the claim. Thus, it is clear that the claim is directed to a method that is implemented in a computer system and the preamble and body of the claim are linked by numerous similar recitations of features in both the preamble and body. Moreover, all recitations of a "spreadsheet" are to the "multi-dimensional electronic spreadsheet" and thus, it is clear that only one type of spreadsheet is referenced in both the preamble and body of the claim. Furthermore, amended claim 1 clearly states that the "user options table data structure" is a data structure that is provided "in the computer system."

With regard to (4) above, amended claim recites that the method is for processing Boolean variables "in a multi-dimensional electronic spreadsheet comprising a plurality of cells identified by a cell address along each dimension." Thus, it is clear that the cells are part of the multi-dimensional electronic spreadsheet. Moreover, the body of the claim 1 recites "referencing..._in one or a plurality of cells of the multi-dimensional electronic spreadsheet," there again specifying that the "one or a plurality of cells" are part of the multi-dimensional electronic spreadsheet. Therefore, it is clear in amended claim 1 that the "cells" are part of the multi-dimensional electronic spreadsheet.

Regarding (6) above, the alleged inferential statement about managing Boolean variables has been removed from amended claim 1 and replaced with the positive recitation of the features of providing a user interface through which one or more user options are defined and that the status of the one or more user options is set via the user interface. Thus, the feature of "managing Boolean variables" is positively recited by replacing this term with positively recited operations that may be included in the general term of "managing Boolean variables."

With regard to (7) above, again the term "managed" is removed from amended claim 1. The term "defined" is still present in amended claim 1 in the phrases "...identifying one or more user options that are defined as Boolean variables..." and "...through which the one or more user options are defined..." Applicants respectfully submit that one of ordinary skill in the art is well aware of the meaning of the term

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"defined" as it is used in these phrases. The term "define," as "defined" by the American Heritage Dictionary of the English Language, Fourth Edition, 2000 (see the copy of www.bartleby.com/61/41/D00941 00.html attached hereto) means to state the precise meaning of (a word or sense of a word, for example), to describe the nature or basic qualities of, to delineate the outline or form of, to specify distinctly, or to give form or meaning to. Thus, one of ordinary skill in the art knows that the term "defined" as it is used in the amended claim 1 refers to the one or more user options having their form or basic qualities described or delineated and that the one or more user options are delineated as Boolean variables.

With regard to (8) above, amended claim 1 continues to recite the term "referencing" despite the alleged indefiniteness raised by the Board. Applicants respectfully submit that the term "referencing" is well known to those of ordinary skill in the art and is not indefinite. However, amended claim 1 recites a definition of the term "referencing" since amended claim 1 now recites "referencing a selected user option of the one or more user options...by including an identifier associated with the selected user option in content of the one or a plurality of cells..." Thus, claim 1 states that the "referencing" is performed by including an identifier of the user option in the content of the cell. Therefore, the use of the term "referencing" is clear in amended claim 1.

Regarding (9) above, the term "can be set" has been removed from amended claim 1. With regard to (1) above, the term "impact" is also removed from amended claim 1. Therefore, for the above reasons, Applicant respectfully submits that amended claim 1 is definite and respectfully requests withdrawal of the rejection of claim 1 under 35 U.S.C. § 112, second paragraph.

With regard to dependent claim 3, the Board alleges this claim is indefinite because "the status value" is not initially recited in parent claim 1. Amended claim 3 now recites that "each record in the user options table data structure comprises...a status value of the corresponding user option associated with the record." Therefore, claim 3 is definite.

Regarding claims 5, 6, 7 and 8, the various terms that the Board indicates to be allegedly indefinite, i.e. "the name," "a status value," "the status value," "said steps," and "a computer system," have been removed by the above amendments to the claims. For

example, claim 5 now recites that the user option listing includes an editor through which "a name" of a user option in the one or more user options is changed. Claim 6 has been canceled. Claim 7 has been amended to recite that "the value" corresponding to the Boolean variable state (Claim 4 recites "a value corresponding to a Boolean variable state") is a numerical one when the Boolean variable is "True" and is a numerical zero when the Boolean variable state is "False." Claim 8 has been amended to remove the recitation of "said steps." Claim 9 has been amended to recite "the computer system."

Independent claims 10 and 11 have been canceled by this Response and thus, the alleged indefiniteness specified by the Board with regard to these claims is moot.

In view of the above, Applicants respectfully submit that dependent claims 2-9 are definite. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 2-9 under 35 U.S.C. § 112, second paragraph.

II.   Rejection of Claims 1-11 under 35 U.S.C. § 101

The Decision on Appeal mailed March 15, 2006 rejects claims 1-11 under 35 U.S.C. § 101 as being allegedly directed to non-statutory subject matter. This rejection is respectfully traversed.

With regard to claims 1-10, the Board alleges that these claims are directed to an abstract intellectual concept or data construct of mathematical/Boolean variables that are set forth in the abstract around a concept of a table. Applicants respectfully disagree.

Amended claim 1 clearly recites that the method is implemented "in a computer system" with the various operations set forth in the body of the claim being implemented "in the computer system." Moreover, the claim recites providing an output via "an output device of the computer system." Thus, amended claim 1 provides a sufficient connection between the method and the computing system upon which the method is implemented to make the claimed method statutory under 35 U.S.C. § 101. The claim is not directed to an abstract intellectual concept or data construct of mathematical/Boolean variables. To the contrary, claim 1 is directed to a method that is implemented in a computing system and which generates an output via an output device of the computing system. This is not an abstract intellectual concept or construct.

As cast, 35 U.S.C. 101 defines four categories of inventions that Congress deemed to be the appropriate subject matter of a patent; namely, processes, machines, manufactures and compositions of matter. The latter three categories define "things" while the first category defines "actions" (i.e., inventions that consist of a series of steps or acts to be performed). See 35 U.S.C. 100(b) ("The term 'process' means process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.") (see MPEP § 2106(IV)(A)). Thus, methods are patentable subject matter.

The subject matter courts have found to be outside the four statutory categories of invention is limited to abstract ideas, laws of nature and natural phenomena. These three exclusions recognize that subject matter that is not a practical application or use of an idea, a law of nature or a natural phenomenon is not patentable. The presently recited invention in claim 1 recites a practical application or use of a method in a computer system to thereby modify the computer system to generate an output via an output device of the computer system, namely an output of the multi-dimensional electronic spreadsheet that is generated based on values of cells in the multi-dimensional electronic spreadsheet, which in turn are based on the settings of user options defined via a user interface. Thus, the presently claimed invention provides a useful, concrete and tangible result and therefore, is not an abstract intellectual concept or data construct.

In view of the above, Applicants respectfully submit that claim 1, and its dependent claims 2-9, are directed to statutory subject matter. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1-9 under 35 U.S.C. § 101.

With regard to claims 10 and 11, these claims have been canceled by the present Response, however the Board's statements will be addressed with regard to newly added computer system and computer program product claims 15 and 21.

The Board rejected system claim 10 stating that the specification does not disclose the "means" recited in the claim. Newly added computing system claim 15 does not recite "means." To the contrary, claim 15 recites that the computing system includes a processor, a storage device, and a memory with the storage device providing a user options table data structure and the memory providing instructions that may be executed by the processor to perform the various recited operations. Support for these elements

may be found at least in Figure 1A, page 7, line 20 to page 8, line 4, and page 19, lines 4-7. Thus, claim 15 is clearly directed to a computing system and not an abstract concept.

With regard to computer program product claim 11, the Board alleges that claim 11 plainly states that the claimed "computer usable medium" is itself comprised of the claimed "computer readable instructions." The Board also alleges that claim 11 does not require or recite a positive statement of a computer readable medium in the conventional sense in the art within which is embodied computer readable instructions, i.e. there is no embodiment of computer readable instructions on a tangible computer readable medium. Moreover, the Board states that, even though claim 11 recites a "computer usable medium," claim 11 does not positively state that nay kind of medium is actually used.

Newly added claim 21 recites a "computer program product comprising a tangible computer useable medium having a computer readable program, wherein the computer readable program, when executed on a computing device, causes the computing device to..." Thus, newly added claim 21 positively recites a product comprising a computer useable medium having a computer readable program. Applicants respectfully submit that this is a positive statement of a computer useable medium in the conventional sense in the art. Moreover, claim 21 positively recites that, when the computer readable program is executed on a computing device, i.e. is used by the computing device, the computer readable program causes the computing device to perform the listed operations. Thus, Applicants respectfully submit that claim 21 is clearly directed to statutory subject matter.
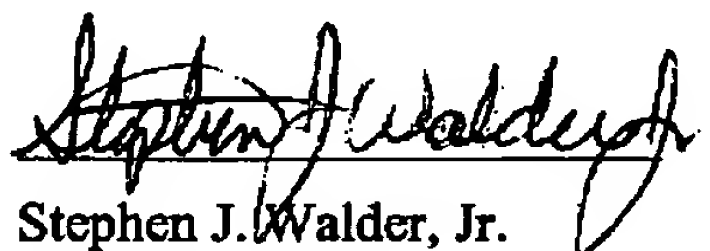
III.   Conclusion

It is respectfully urged that the subject application is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,

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